

AD-A014 430

DA APPROVED SMALL DEVELOPMENT REQUIREMENT FOR A FAMILY
OF EXTERNAL HELICOPTER SLINGS, 5,000 TO 60,000 POUND
CAPACITY

Marine Corps
Washington, D. C.

25 July 1975

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25 JUL 1975

AD A 014430

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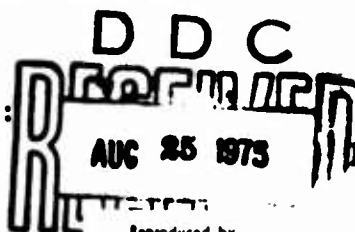
Subj: Required Operational Capability (ROC) No. LOG-1.02: External Helicopter Slings

Ref: (a) MCO 3900.4A

Encl: (1) DA Approved Small Development Requirement for a Family of External Helicopter Slings, 5,000 to 60,000 Pound Capacity

1. Enclosure (1) satisfies the Marine Corps requirement for external helicopter slings.
2. The Marine Corps has a specific requirement for an external cargo sling with a 40,000 pound capacity for use with the CH-53E. The U.S. Army Air Mobility Research and Development Laboratory, which has the responsibility for the development of external cargo slings for the U.S. Army, has been apprised of Marine Corps requirements and has agreed to include a sling of a 40,000 pound capacity in their developmental program. In addition to the capabilities identified in paragraph 2.a(1) of enclosure (1), the sling should also safely lift communications, avionics, Marine Air Command and Control System vans (i.e., MTDS, DASC, and TPQ) and various other aviation site support vans that can be anticipated to require helicopter lift to an expeditionary airfield complex.
3. In accordance with the procedures set forth in reference (a), ROC No. LOG-1.02: External Helicopter Slings (Unclassified) is hereby established and promulgated.
4. There exists a continuing effort to upgrade the quality of all operational requirements in order to make them more useful. In consonance with this effort, all comments or recommendations regarding the content of this requirement document should be made within the guidelines set forth in reference (a) and addressed to the Commanding General, Marine Corps Development and Education Command, Quantico, Virginia 22134. Requests for changes to the distribution list should be made to CMC (Code RD).

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H. L. WILKERSON
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**TITLE: DA APPROVED SMALL DEVELOPMENT REQUIREMENT FOR A FAMILY OF
EXTERNAL HELICOPTER SLINGS, 5,000- TO 60,000-POUND CAPACITY**

**1. Combat Development Objectives Guide (CDOG) paragraph number.
99d(4) (Appendix E) This requirement is unclassified.**

2. Statement of requirement, purpose, and operational characteristics.

a. Requirement and performance. The requirement exists for a new family of slings for transporting cargo as helicopter external loads. The new family of slings will be used to transport cargo as external loads by Army utility/cargo helicopters in weight categories of 5,000, 10,000, 25,000, 50,000, and 60,000 pounds. The family of slings will be suitable for use with current utility/cargo helicopters, the heavy lift helicopter, utility tactical transport, and the light tactical transport aircraft system projected for development during the 1975 - 80 time frame. The family of slings will possess the following essential characteristics:

(1) Be capable of safely suspending the following type helicopter external loads during flight:

- (a) Vehicles.**
- (b) Materials handling equipment.**
- (c) Loaded Army and Air Force pallets and platforms.**
- (d) Loaded cargo nets.**
- (e) Loaded CONEX containers.**
- (f) Loaded United States of America Standards Institute (ASI)
8- by 8- by 20-foot containers.**
- (g) Loaded fuel containers.**
- (h) Artillery pieces and ammunition carried separately or as piggyback loads.**
- (i) Missiles.**
- (j) Lumber and other construction and barrier material.**
- (k) Outsize and sectionalized pieces of heavy equipment.**

Enclosure (1)

(1) Combination loads, such as more than one vehicle coupled together as one load.

(m) Disabled aircraft.

(n) Individual components and preassembled sections of standard fixed and floating bridge equipment.

(2) Be compatible with equipment lift points and helicopter cargo suspension systems.

(3) Be designed to minimize slings' rubbing or chafing with the load being lifted.

(4) Be designed to preclude damage to the load during flight.

(5) Be designed to eliminate or reduce use of padding, special apparatus, or other devices intended to prevent damage to equipment or slings during transport of a load.

(6) Be designed to withstand deterioration from constant use throughout the service life. The mean service life will be 1320 missions (see "e" below) or 1 year (essential). 2640 missions or 2 years (desired) whichever occurs first.

(7) Be capable of rapid, simple, and secure attachment to and release from the cargo suspension system of the helicopter without use of special tools or devices. All adjusting devices will be of a positive locking nature to preclude loosening during use.

(8) Be capable of reducing or eliminating the requirement for doubling of sling legs to increase lift capacity or adding slings to make them longer.

(9) Be capable of being readily configured or reconfigured into a single or multiple leg sling as required by the type load to be transported. Provisions will be made for precise manual adjustment of the sling leg lengths to compensate for asymmetrical load center of gravity as they pertain to various load configurations. This requirement applies to the type loads described in (1) above.

(10) Be as lightweight as possible, commensurate with design and manual handling requirements. Slings or sling assemblies will be light enough to permit engagement of the load to the helicopter suspension system by one man. It is desired that no sling or sling assembly exceed 35 pounds.

- (11) Be packaged in a manner to facilitate storage.
- (12) Provide features to secure, restrain, control, or hold loose lines to prevent their entanglement in load protrusions as the load is being lifted by the helicopter.
- (13) Have safe working load (SWL) ratings of 5,000, 10,000, 25,000, 50,000, and 60,000 pounds. The SWL will be based on the strength of materials used in construction, with appropriate allowances for the following:
 - (a) Exposure to operating environments.
 - (b) Repetitive usage at rated capacity (not less than 1,320 uses).
 - (c) Aging.
 - (d) Vibratory loads.
 - (e) Interfacing hardware (contour surface finishes, bearing area, load configurations, etc.).
 - (f) Fabrication (stitching, welding, etc.).
 - (g) Inertial and dynamic flight loads, including vertical air loads in hover.
 - (h) Safety factor appropriate to materials being used.
 - (i) Deteriorative and corrosional effect of petroleum base products incidental to helicopter operations.
- (14) Be designed to eliminate (desired) or significantly reduce (essential) sling leg flapping, load oscillation, twisting, and vertical bounce during flight.
- (15) Be designed to facilitate a nondestructive checkout technique for in-the-field verification of the SWL rating of a given sling.
- (16) Be capable of being used by personnel wearing a full complement of chemical-biological (CB) protective clothing.
- (17) Be capable of being decontaminated to a safe level after exposure to CBR agents.

(18) Allow delivery of sling loads in areas of dense vegetation.

(19) Each individual sling leg will be capable of suspending the entire weight of the load should the other legs break during flight.

b. Concept of employment.

(1) Army helicopters, with the exception of command and control, armed, and light observation helicopters, will be involved at one time or another in external transport missions. Heavy and medium transport helicopters will function in this capacity for approximately 80 percent of all missions performed. The remaining 20 percent will be internal loads consisting of personnel and cargo. Army helicopters will be used daily for resupplying forward field positions with POL, rations, ammunition, construction material, and items of unit equipment. Less frequently, these helicopters will move engineer equipment such as floating bridges, powerboats, sheepsfoot rollers, asphalt spreaders, and D6 bulldozers. Cargo to be transported externally by helicopters will be rigged by the supported units. Helicopter external slings will be required to transport loaded cargo nets, palletized cargo, bulk cargo loaded on pallets or in Army and commercial containers, cargo loaded on platforms, and vehicles and outsize cargo not conducive for loading on pallets, platforms, or in containers.

(2) When cargo is moved by helicopter external sling load, the unit to be lifted provides all the essential equipment and personnel for sling loading, including the hookup team. The air transport unit will provide technical supervision to assure that sling loads are properly prepared and attached to the helicopter. The unit to be lifted will be authorized adequate quantities of slings to accomplish the move. The aviation unit providing the lift helicopter will be authorized limited quantities of slings necessary to conduct unit training and to move organic equipment.

(3) Terminal transfer units (TOE 55-118G) will be employed in resupply and air cargo transfer operations at Army and Air Force air terminals in corps and field army rear areas to support Army air lines of communication. Necessary facilities and services are provided at these terminals to obtain timely and effective air movement of supplies and to facilitate efficient use of available aircraft. In all situations, every effort must be made to assure that cargo availability and clearance transportation are equal to the tonnage requirements of the ultimate user. To accomplish its mission, the terminal transfer company is provided a variety of slings for rigging external loads for helicopter delivery, and arrangements must be made for periodic return of the slings so that a sufficient supply will always be available in the terminal.

c. Turnaround time. Turnaround time is the time from the completion of derigging of one load to the initiation of the rigging of another load. Turnaround time is based on the assumption that prior to recommitment or dispatch no service or repairs will be required other than visual inspection of slings and associated rigging equipment for serviceability. Under these conditions, turnaround time will be:

Required: 2 minutes.

Desired: 1 minute.

d. Reaction time. Reaction time is the time between an order for an action and onset of the desired action. Reaction time will be immediate.

e. Mission reliability. This equipment must be capable of being operated in various operational environments throughout the world, with a desired mission reliability of 99.7 percent. Minimum acceptable mission reliability is 99.0 percent. The equipment will resist the harmful effects of rodents, insects and fungi. Non metallic equipment will be chemically treated to resist the harmful effect of rodents, insects, and fungi. The equipment will be capable of employment in category 1 through 8 climatic conditions described in Section 2 AR 70-38. For storage and transit conditions, the equipment will meet the criteria specified in AR 70-38, a typical mission, consists of the cycle consisting of rigging, hook-up, flight, dehooking and derigging where the normal flight time is 25 minutes. For purposes of mission reliability failures which in any way degrade the capability of the item to perform in accordance with this document's specifications will be chargeable when computing MTBF.

f. Operational ready rate (combat). The operational ready rate is the percent of assigned items capable of performing the mission or function for which designed, at a random point in time (Mil Std 721B). It is essential that the equipment achieve the highest possible combat ready rate. Combat ready rate for this equipment will be 99 percent.

g. Required mission duration. Mission duration is the time a load is suspended from an airborne helicopter. One average mission will be 25 minutes of actual flight.

h. Planned utilization rate. Utilization rate will depend on the tactical situation and the support mission to be performed. Equipment

will be available for use on an as-required basis. Planned equipment utilization rate is two missions per hour or 1,320 per year.

1. Reliability after storage. The equipment will be stored in a depot warehouse where it will be protected from environmental extremes prior to issue. While in storage the equipment will experience negligible deterioration. After 1 year of storage the equipment will have an annual service life of 1,320 operational missions.

3. Supporting justification and date.

a. Cost of development from research, development, test, and evaluation (RDTE) funds. RDTE cost is \$960,000, broken down as follows:

Engineering-----	\$700,000
Manufacturing-----	75,000
Parts and materials-----	10,000
Engineering and service test-----	160,000
Maintenance package-----	<u>15,000</u>
Total estimated cost-----	\$960,000

b. Material for fabricating this equipment is abundantly available in the commercial market.

c. Impact on national production capacity. None.

d. Technical feasibility of developing and producing the item by the time frame for which required.

(1) Development of this system is feasible during the FY 1971-72 time frame. Type classification of this equipment should be programmed for the fourth quarter of FY 1973. Production quantities should be programmed for the first quarter of FY 1974.

(2) A technical feasibility statement is to be developed in coordination with the U.S. Army Materiel Command.

e. Cost of prototypes, initial production including tooling costs, and in-quantity production.

(1) Five complete sets of all components in each weight category will be required for engineering and service tests. Estimated cost of one prototype sling system for test and evaluation purposes is \$1,875. Total estimated cost of five prototype sling families is \$9,375. Special tooling is required for development of the family of slings. Estimated cost of tooling is \$10,000.

(2) After prototypes have been developed, a reduction in production costs from the test models is anticipated. The initial production cost of \$185 for one sling set is based on a production run of 100 sets. Subsequent production cost of one sling set is estimated at \$150, based on a production run of 500.

f. Comparison with existing equipment and indication of standard items to be replaced.

(1) Aerial delivery slings and the universal sling set are the only items presently available for transporting helicopter external sling loads. Rigging lightweight loads with this equipment has been relatively uncomplicated. However, sling load weights have increased, and double slings are required to accommodate heavier and more complicated loads. Doubling of slings to increase their lift capacity and lack of proper external sling suspension points on Army equipment to be lifted have made load rigging complex, difficult, and time consuming. Additionally, rigging loads with aerial delivery slings and universal slings requires the use of numerous small hardware items such as clevises with nuts, bolts, and link assemblies. Load oscillation and vertical bounce are also being experienced with the universal slings and aerial delivery slings during flight, which result in loads being dropped. There are also instances where pilots have deliberately released an airborne load due to high vibrational frequencies induced by vertical bounce and load oscillation. The family of external helicopter slings to be developed under this small development requirement (SDR) is expected to alleviate these problems.

(2) The family of slings to be developed under this SDR will replace the following standard slinging materials used to transport external helicopter sling loads:

<u>FSN</u>	<u>Nomenclature</u>	<u>Rated strength (pounds)*</u>
1670-090-5354	Clevis, suspension, large	20,000

<u>FSN</u>	<u>Nomenclature</u>	<u>Rated strength (pounds)*</u>
1670-360-0304	Clevis, suspension, small	10,000
1670-587-3421	Clevis, suspension, medium	10,000
1670-753-3788	Sling, cargo, aerial delivery, 3-ft, 3-loop	10,000
1670-753-3789	Sling, cargo, aerial delivery, 8-ft, 2-loop	6,500
1670-753-3790	Sling, cargo, aerial delivery, 9-ft, 2-loop	6,500
1670-753-3791	Sling, cargo, aerial delivery, 11-ft, 2-loop	6,500
1670-753-3792	Sling, cargo, aerial delivery, 12-ft, 2-loop	6,500
1670-753-3793	Sling, cargo, aerial delivery, 16-ft, 2-loop	6,500
1670-753-3794	Sling, cargo, aerial delivery, 20-ft, 2-loop	6,500
1670-753-3630	Sling, cargo, aerial delivery, 8-ft, 3-loop	10,000
1670-753-3631	Sling, cargo, aerial delivery, 9-ft, 3-loop	10,000
1670-783-5988	Link assembly, single suspension or extraction, quick release (Type IV)	40,000
1670-823-5040	Sling, cargo, aerial delivery, 11-ft, 3-loop	10,000

* Maximum allowable load

<u>FSN</u>	<u>Nomenclature</u>	<u>Rated strength (pounds)*</u>
1670-823-5041	Sling, cargo, aerial delivery, 12-ft, 3-loop	10,000
1670-823-5042	Sling, cargo, aerial delivery, 16-ft, 3-loop	10,000
1670-823-5043	Sling, cargo, aerial delivery, 20-ft, 3-loop	10,000
	Sling, cargo, aerial delivery, all lengths, 3-loop, doubled	17,500
1670-902-3080	Sling, cargo, multiple leg (chain leg)	15,000
	Sling, cargo, multiple leg (chain leg), doubled	26,250
3940-675-5001	Sling, endless, 10-in. diameter	10,000
3940-675-5002	Sling, endless, 4 ft. long	2,500
3940-675-5003	Sling, endless, 8 ft. long	2,500
4030-185-0490	Shackle, anchor, screw pin	10,850

NOTE: Strength data extracted from U.S. Army Test and Evaluation Command (USATECOM) report, "Service Test of Sling, Helicopter, External, USAAESW Board Project No. AB 4867."

g. Consideration of health and safety criteria.

(1) There are no inherent characteristics in this equipment which will impair the health of the user; consequently, a statement of health criteria is unnecessary.

(2) Safety criteria should include the following:

(a) Adequate structural strength and safety factor.

* Maximum allowable load

(b) Proper labeling of components to clearly indicate S.W. capacity. Each component of the family or slings will be clearly and indelibly marked with rated capacity so that the user will have no difficulty in quickly determining whether he is using the correctly rated sling. Markings will be sufficiently detailed to avoid intermingling when in use and to assure that the proper sling will be used on the load.

(c) Elimination of sharp edges to prevent personal injury.

(d) Prevention of inadvertent entrapment of fingers of flesh.

(e) Prevention of inadvertent release.

h. Environment in which the item is to be used (e.g., classroom, field) to be considered in testing. This equipment will be used by all operational field units. Testing should encompass the environments described below and the criteria described in "e" above.

(1) The equipment will normally be attached to the cargo hook while the helicopter is maintaining a steady hover. Currently, there are instances where the weight of the cargo hook and the size or weight of the slings make it difficult for the ground crewman to join the cargo hook and sling together, thus requiring the helicopter to be precisely over the load. During hovering, rotor downwash will pick up particles on the ground and circulate them through the rotor slipstream, causing abrasive action on the suspension slings. In dusty terrain the revolving air mass carrying the dust may enshroud the aircraft, making it extremely difficult for the ground crewman to engage the sling load clevis or ring to the helicopter hook. These conditions will have a direct effect on operation, maintenance, and use of the family of slings to be developed under this SDR. Therefore, the slings must be lightweight enough to be handled by one man during hook-up, yet rugged enough to withstand the abrasive effect of dirt, sand, and dust.

(2) The aerodynamic phenomenon known as vertical bounce directly influences the type of sling material used and the suspended length of the load being transported as an external helicopter sling load. Vertical bounce is a vertical vibratory motion of the helicopter fuselage and the external load at approximately 3 to 4 cycles per second and may increase to such intensity as to cause the pilot to jettison the external load. The problem is aggravated by using a sling with physical properties that permit frequencies which correspond to the aircraft vertical bounce frequency.

In the past, the problem has been minimized by selecting sling materials and lengths that cause the load bounce frequency to mismatch with the aircraft bounce frequency. Experience with the CH-47A indicates that solution of the vertical bounce problem will be a prime objective during equipment development.

(3) When a helicopter external transport mission is to be performed, such factors as load rigging time, load hookup time, flight time, and load derigging time must be considered. During the hardware concept formulation phase of the development cycle, these times will be later verified during the engineering and service test cycle. Table I presents a minimal representative list of helicopter external delivery missions which may be used during hardware concept formulation and test.

1. Areas of possible simplification of design through application of value engineering techniques without jeopardy to the primary function of the equipment, when total cost might be reduced significantly. To be developed during coordination with the U.S. Army Materiel Command.

j. Communications and electronic security requirements, if any, for RDTE. None.

k. A statement of electromagnetic spectrum requirements. Not applicable.

4. Assigned priority. Priority I in Functional Group 4, Tactical Movement

5. Maintenance characteristics. It is essential that this equipment possess the following maintenance characteristics:

a. Low-cost material should be used where practicable, and the equipment should be designed so as to be expendable if excessively damaged or worn.

b. Design for ease of maintenance should not take precedence over design for increased reliability and safety.

c. Diagnosis of failures at the applicable level of maintenance should not be complex because it will consist of visual inspection and static load tests. Maximum time allowable for diagnosing failures will be--

(1) Organizational level (visual inspection):

Required: 5 minutes.

Desired: 2 minutes.

(2) Direct support level (visual inspection and static load tests):

Required: 15 minutes.

Desired: 10 minutes.

d. Maximum time allowable for making repairs to encompass nondestructive tests at the direct support maintenance level will be:

Required: 30 minutes.

Desired: 20 minutes.

e. Minimum allowable time between scheduled maintenance. Scheduled maintenance requirements at organizational and direct support levels are as follows:

(1) Organizational level:

Required: Visual inspection after each use and cleaning as necessary. No repairs will be made at this level.

(2) Direct support level:

Required: 6 months.

Desired: 1 year.

f. Mean downtime allowable. Mean downtime is the time required to repair and inspect the equipment and to return it to service standards, provided servicing material, repair parts, maintenance personnel, and facilities are available. Repairs and inspection will be accomplished within the following time frame.

(1) Organizational level: No repairs will be required at this level.

(2) Direct support level:

Required: 45 minutes.

Desired: 30 minutes.

g. Test and checkout methodology. The user will only be required to perform visual inspection of the equipment at the organizational level before and after each use. Additionally, organizational maintenance personnel will clean the slings as required. At the direct support level, maintenance personnel will be required to inspect and test the system every 6 months (desired 1 year) by placing each component on a test device which will provide a nondestructive test and checkout procedure for verifying the SWL rating. Direct support maintenance personnel will also make repairs on the system. The maintenance package will contain detailed inspection, checkout, repair, and nondestructive test procedures and a chart which relates the strength of the material to the SWL.

h. Maintenance personnel. The user of this equipment will make visual inspections. If the user finds a defect, the component will be returned to the direct support activity for repair or replacement. Repairs at the direct support level will be made by MOS 43J (textile repairman), MOS 43E2C and parachute rigger.

i. Operating manuals. An operating manual containing detailed operating and load rigging procedures for use of this equipment will be developed with the equipment for concurrent engineering and service tests. Manuals will meet the requirements specified in AR 310-3.

6. Background information.

a. This SDR supports the following paragraphs in the Combat Development Objectives Guide:

(1) 1612a(2), Materials Handling Equipment (U).

(2) 114a, Service Support Supply (C) Operational Capability Objective.

(3) 512a(2), Airmobile Operations and Army Aviation General Considerations (U).

(4) 512b(16), Heavy Lift Helicopter (HLH) (U).

(5) 512b(18), Utility Tactical Transport Aircraft System (U).

(6) 533a(14), Aerial Crane (U).

b. The U.S. Army Aviation Board, in its "Supplement to Test Report for Service Test of the CH-47A Helicopter," USATECOM Project No. 4-3-0200-02, DA Project No. 1R179191D685, 30 April 1964, reported that the current Army standard external sling system caused unacceptable vibration levels from a safety-of-flight viewpoint. The report further indicated that lack of a 20,000-pound-capacity external transport sling system limited the cargo carrying and aerial delivery capability of the helicopter.

c. In recognition of the helicopter external sling problems experienced during 1963 and 1964, the Transportation Agency submitted a DPSDR for the development of a 20,000- and a 40,000-pound-capacity helicopter external sling system. On 21 June 1966, the Transportation Agency was advised that the DPSDR for a 20,000- and a 40,000-pound-capacity sling system would be deleted from the CDC program for the following reasons:

(1) A 40,000-pound-capacity sling listed in Volume 8, Annex A, "Development of Equipment in Airmobile Divisions, Army Evaluation of Control Operations in Vietnam," had been type-classified.

(2) The U.S. Army Materiel Command planned to procure off-the-shelf 20,000-pound-capacity slings, which would satisfy the SDR requirements.

d. Subsequent to the actions discussed in "b" above, the 40,000-pound-capacity type-classified sling was further evaluated by the U.S. Army Materiel Command. This evaluation revealed that the type-classified 40,000-pound-capacity sling system actually has an operational capacity of only 15,000 pounds.

e. In the interim, units were assigned to Vietnam without adequate helicopter slings to support their operations. Information obtained from Vietnam indicated that air delivery slings and other components were being used in support of helicopter external transport operations. Air delivery slings were not authorized for use as helicopter external slings. Moreover, rigging procedures for use of air delivery slings as helicopter external transport slings had not been developed or tested.

f. On 1 February 1968, the Transportation Agency submitted a letter to USACDC requesting that air delivery slings being used by units in Vietnam be tested and that operating procedures for their use be developed and published.

This action culminated in the testing of air delivery slings by the USATECOM and the publication of TM 55-450-11, Helicopter External Loads Rigged with Air Delivery Equipment.

g. In October 1968, the USATECOM published a report, "Service Test of Sling, Helicopter, External, USAAESW Board Project No. AB 4867." This report contains valuable data concerning problems encountered in using current helicopter slings. The report recommends that "slinging equipment for external transport compatible with current and developmental helicopter lift capability be developed and standardized."

h. The following references were used in preparing this SDR:

- (1) FM 55-46-1 (Test), Army Air Transport Operations.
- (2) FM 55-55-1 (Test), Transportation Terminal Operations.
- (3) TM 55-450-8, Air Transport of Supplies and Equipment: External Transport Procedures.
- (4) TM 55-450-11, Helicopter External Loads Rigged with Air Delivery Equipment.
- (5) Service Test of Sling, Helicopter, External, Final Report, USATECOM Project No. 4-6-7538-02, USAAEW Board Project No. AB 4867.
- (6) USAAVLABS Technical Report 67-51, Heavy Lift Helicopter, 40,000-Pound-Capacity External Cargo Handling System Design Study.
- (7) USATECOM Project No. 4-3-0200-02, DA Project No. 1R179191D685, 30 April 1964, Service Test of the CH-47A Helicopter.

i. Correlation. Action Control Number is 13987. The action supports the following:

- | | |
|--------------------------------------|----------------------------|
| (1) Army Combat Developments Program | Army 75 |
| (2) Study "Army FAAS 85" | |
| USACDC Action Control Number | 14490 |
| (3) Army Tasks: | |
| | 1. High-Intensity Conflict |
| | 2. Mid-Intensity Conflict |

18

(4) Phase:

(5) Functions:

3. Low-Intensity Conflict,
Type I

7. Complementing of Allied
Land Power

Matériel

Service Support

SUPPLEMENTARY

INFORMATION



DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

IN REPLY REFER TO
RDD-24-kmp
3 MAR 1978

AD-A014430

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To: Distribution List

Subj: Required Operational Capability (ROC) No. LOG-1.02, External Helicopter Slings

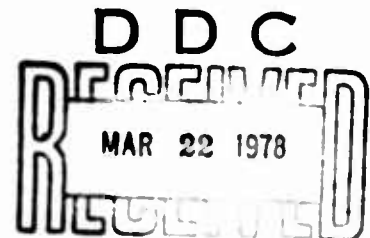
Ref: (a) CMC ltr RDD-24-mrc of 25 Jul 1975

Encl: (1) New Page Insert to the Subject ROC

1. Purpose. To transmit a new page insert to the subject ROC.
2. Action. Remove and destroy the Marine Corps cover letter to the subject ROC and replace it with enclosure (1) hereto.
3. Filing Instructions. Upon completion of the action in paragraph 2 above, this change will be filed immediately following page 4 of the reference.

H. FITCH
DEPUTY CHIEF OF STAFF FOR RMAS

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(See attached)





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IN REPLY REFER TO
RDD-24-mrc
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From: Commandant of the Marine Corps
To: Distribution List

Subj: Required Operational Capability (ROC) No. LOG-1.02,
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Ref: (a) MCO 3900.4B

Encl: (1) DA Approved Small Development Requirement (SDR)
for a Family of External Helicopter Slings,
5,000 to 60,000 Pound Capacity

1. The enclosure meets the Marine Corps requirement for external helicopter slings with the exception of the following:

a. The Marine Corps has a specific requirement for an external cargo sling with a 15,000 pound capacity for use with the CH-46 and CH-53D, and a 40,000 pound capacity for use with the CH-53E.

b. In addition to the capabilities identified in paragraph 2a(1) of enclosure (1), the sling should also safely lift communications, avionics, Marine Air Command and Control System vans (i.e., MTDS, DASC, and TPQ) and various other aviation site support vans that can be anticipated to require helicopter lift to an expeditionary airfield complex.

c. Disregard subparagraph 2a(1)(m).

d. Disregard last sentence of subparagraph 2a(10). The second sentence should read, "Slings or sling assemblies will be light enough to permit engagement of the load to the helicopter suspension by two men to hook up the 25,000 pound capacity sling."

e. Disregard 5,000, 50,000, and 60,000 pound capacity slings outlined in subparagraph 2a(13).

f. Disregard subparagraph 2a(15).

REVISION 1

Subj: Required Operational Capability (ROC) No. LOG-1.02,
External Helicopter Slings

2. In accordance with the procedures set forth in the
reference, ROC No. LOG-1.02, External Helicopter Slings
(Unclassified) is hereby established and promulgated.

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